

## **Appendix B: Maine's Natural Resource Industries in a Post Industrial World**

By Dr. Charles S. Colgan  
Professor of Public Policy and Management  
Associate Director, Center for Business and Economic Research  
Muskie School of Public Service  
University of Southern Maine

Maine's natural resource industries are in trouble. This is not news. Particularly in the manufacturing industries, Maine has been steadily losing jobs for two decades. There have been some bright spots, including parts of the fishing industry, but even these are tarnished by the prospects of drastic restrictions on aquaculture and the groundfishing sector. Even our largest natural resource industry, tourism, is lagging.

As we struggle to deal with the problems facing these industries, we need to be clear about what the sources of the challenges are. This morning I would like to outline what I think those challenges are and suggest some strategies to meet them as a way to help organize what you will the rest of today.

There have been no shortages of diagnoses for the problems of the natural resource industries, and no shortages of solutions proposed. Over the last twenty-five years, I am reasonably sure I have heard them all. All of them can be subsumed within two broad categories: competitiveness and resource management.

All of the firms in the natural resource industries operate in highly competitive markets. No firms dominate their market or even a share of the markets. Firms cannot raise the prices for the products because someone is always there to sell at a lower price, which in turn means relentless pressure to control costs. Over the last decade, competition has increasingly come from imports as transportation and trade policy changes over the last three decades have opened America, the richest and most stable market, to the world.

At the same time, the resource base on which we depend has become more and more fragile. Our forests remain the dominant feature of the Maine landscape, but the intensity of use for both extractive and passive uses has increased at enormous rates. Our ocean resources are under even more pressure, and we have still not discovered reliable ways to equate the pressure of use with natural reproductive systems. Our agriculture land base and our famous three thousand mile coastline are under intense competition for many uses.

It is important to understand that these problems face forest products, fisheries, agriculture, and tourism throughout the United States. Maine's natural resource industries are part of America's natural resource industries, and we need to start by understanding where those industries are, at least in broad outline. Note that the data I will show is highly aggregate and may be somewhat distorted by trends in products that Maine does not produce but the broad picture is applicable throughout the resource industries nonetheless.

Starting with forest products, the softwood lumber industry has been part of a remarkable housing boom over the last several years, driven by a rapidly rising economy and a period of historically low interest rates. Demand for softwood lumber has been more or less steadily rising for nearly a decade, despite the downturn in the overall economy over the past three years. But, as the supply picture makes clear, most of the growth in softwood lumber demand has been met by imports. The export market for softwood lumber has been very small.

With pulp and paper, a somewhat similar story emerges. According to Jim McNutt of the Center for Business and Paper Industry Studies at Georgia Tech, demand for printing and writing papers, the grades that Maine primarily produces, took a big hit in the wake of the collapse of the tech boom. But demand is rebounding and should see steady growth over the next few years.

There is, however, stiff competition from abroad to meet this demand. There is also a substantial gap between expected demand and both capacity to produce paper and the amount that will be shipped from North American mills. That gap reflects the chronic over-capacity in the pulp and paper industry and the substantially increased importance of imports in the North American market. Meanwhile, imports of all grades of paper have more than tripled in the last decade, particularly after 1996.

Turning to fisheries, demand continues to rise for seafood, reinforcing the old aphorism that every fish can find a home. Like forest products, much of that demand is now being met by imports as domestic landings fall. Imports have been the key to meeting America's increasing appetite for seafood, although the problems with sustainable harvests plaguing domestic fisheries are now spreading to other world fisheries such as the Chilean Sea Bass.

Unlike softwood lumber, exports remain a big part of the U.S. seafood industry. Maine plays an important role thorough major lobster exporting; much of the growth in lobster catch over the last five years has gone to the export market.

Finally, looking at potatoes, overall production in the U.S. has remained relatively steady over the last decade, with little in the way of overall market growth or domestic supply. Imports and exports remain a relatively small part of the overall picture. However, processed potato trade has been steadily growing in both imports and exports. Until recently the U.S. was exporting more processed potatoes than it was importing, but this trend reversed in the last few years. Fresh or table stock potato trade has been relatively small in the national picture, though it remains the principal issue for many Maine growers.

Two major conclusions can be drawn from this analysis of national and international markets. First, the overall markets for Maine's natural resource products are stable or growing, though some are more influenced by business cycle conditions than others. Second, competition in all of the markets is increasing primarily from imports. The most important effect of this competition is to limit or eliminate any ability to influence the prices paid for natural resource products. This can be seen most clearly in the case of paper and fisheries, but it applies equally to softwood lumber, potatoes, and other products.

Adjusted for inflation (using the GDP implicit price deflator), the real value of U.S. fisheries landings has declined substantially over the same period even as demand was growing. Real values were steady in the past decade, but began another down tick early in this decade.

A similar picture is apparent in the pricing of printing and writing papers over the past decade, according to Jim McNutt at Georgia Tech. There has been overall stability in nominal prices, with a brief up tick as the economy was emerging from the last recession, but real prices have steadily declined to levels that represent historic lows.

The relentless downward pressure on prices means similar pressure must be exerted on costs. I will not belabor all the reasons why Maine is a high cost state to do business in, though I will return to some of them when I talk about strategies. Rather, let me just illustrate the point with some data from the paper industry. As I mentioned, Maine produces primarily printing and writing papers. One of our key products is directory paper, used mostly in phone books. This graphic shows data from the Georgia Tech data base on the costs of production at a Maine mill making directory paper, the industry average for such mills, and the lowest cost producer in their data base. Maine's cost gap is significant, especially in labor.

Maine has survived its high cost structure for many years by having exceptional productivity. But, as recent events throughout the forest products industry have shown, productivity can only carry you so far in a highly competitive price environment.

The results of all these trends are in some ways not surprising. The natural resource industries are becoming a smaller and smaller part of both the U.S. and Maine economies. But the problem is worse here in Maine because we are not only losing in absolute terms, we are losing relative to the rest of the U.S. Even in the one natural resource industry where we have been growing, tourism and recreation, we are losing market share.

For purposes of illustrating these conclusions, I will define the natural resource sector of the Maine and U.S. economy as comprising the lumber and wood products, paper and allied products, food products, farming, agriculture, forestry and fisheries services, and hotels and lodging places. I will use hotels as a marker for tourism.

It is well known that employment in these industries has dropped. From 1987 to 2000, these industries declined from 14.5% to 12.6% of wage and salary employment in Maine. What is even more shocking is a drop from 22% of gross state product in 1987 to under 9% in 2001. This latter figure is heavily influenced by the recession of that year, but even with a cyclic rebound, the proportion of the state's economic output comprised of these industries will have dropped in half in about 15 years.

When broken down by the individual industries, it is clear that the overwhelming reason for the drop is a fall in the contribution of forest products to the economy. Pulp and paper and lumber and wood both fell by 50% or more. Other sectors, including hotels, also dropped as a proportion of the economy. Only farming slightly increased, and farming's contribution to the economy is notoriously volatile.

The growth patterns in the natural resource industries in Maine are disturbingly different from those of the U.S. Over 1987-2000, Maine's losses in both jobs and output in the forest products industry were not mirrored in the U.S. Indeed, output in pulp and paper shows fairly health growth. Only in employment in agriculture, forestry, and fishing services did Maine grow faster than the U.S., but we still not match the U.S. in output growth for this sector.

Even in hotels, we lagged the U.S. in employment and significantly lagged in output. In tourism, Maine has one world-class attraction - the coast. Yet even with our unique resources in this area, we are losing out. A comparison of employment and output in the ocean-related tourism and recreation sector as part of the U.S. ocean economy shows that Maine's coastal tourism is growing, but still lagging the U.S. in both employment and output growth.

To repeat: Maine is not only losing employment and output; it is losing market share even where we are stable or growing. This would be a serious challenge under the best of conditions. Unfortunately, we have to meet these challenges under far from ideal conditions in the resource base on which everything else depends. Three factors dominate the issue of resource management:

- We are right at, or beyond, sustainable harvest levels from the forests and oceans, and we do not have the knowledge that will get us there.
- The land base is shifting rapidly from resource to urban uses.
- We have profoundly conflicting visions of how Maine's natural resources should be used.

The basic principle that one should not exploit a renewable resource beyond that point at which the resource can renew itself through its biological potential is hardly debatable. Agreeing on that as a goal is easy. Implementing it is hard. What is the level at which biological potential is irreversibly damaged? What level of resource use is, in fact, associated with that biological level? How does natural variation in the environment, which occurs over time scales from daily to decadal, influence the point of maximum biological potential? Is today's answer different from yesterday's, or tomorrow's?

If we have to adjust to “sustainable” harvest levels, who will have to make what adjustments in their economic lives?

The truth is we do not have very good answers to any of these questions, and we do not have any answers at all to some of them. Yet we must behave as if we do have the answers. Over the last thirty years more attention is being paid to finding answers to these questions than ever before, and while we have learned some things, we still operate in an environment of profound uncertainty and risk.

Another source of concern is the changing ownership of land. By acreage, much, maybe most, of Maine has changed hands over the past decade as the integrated forest products companies have, with some exceptions, have decided they would rather be un-integrated forest products companies. Agricultural land continues to be sold for development in what my colleague Mark Lapping calls the “contested countryside”. And on the coast, a combination of tax reform, which gave further preferences to real estate holding, and the shift of wealth out of stocks and into real estate as the dot.com com boom went bust, has greatly increased the demand for coastal real estate.

It is easy to overstate this as a problem. Vibrant markets and rising values are not a sign of economic weakness. Imagine for a moment how we would interpret real estate prices falling throughout Maine at the rates they have actually been rising. But these trends add to the prevailing climate of uncertainty in which the industries must operate.

Finally, there are the profoundly different visions about Maine’s natural resources. The extended acrimony over clear cutting, the fights over aquaculture leases and other waterfront development, and local battles over preserving or developing open space and farm land are all examples of different ways of interpreting the “way life should be” in Maine

In an increasingly urban society, we see our woods, waters, and lands as that characteristic of Maine we most want to see kept as both a visual and experiential refuge from the urban-suburban life. For others, the “way life should be” is the opportunity to work the land, the woods, and the waters to make a living in the outdoors far from offices and city streets. These differing visions of the resource base are adding one more burden to the resource industries who find they must not only fight their competitors but their neighbors as well.

All of these factors- the pressures from competition and on the resource base itself add up to the serious situation facing every one of Maine’s natural resource industries today. The question now is what are we going to do about them? In today’s sessions you will hear a lot of terrific ideas about how to respond to these challenges, and you will come away wondering which are the most important, which need to be done first. I suggest no specific priorities, but I do suggest strategic priorities. Everything we do for the natural resource industries must be aimed at increasing our competitiveness and managing the resource base. To do that I suggest the following “strategic themes:”

1. Control costs- the single most important issue facing the industries
2. Add services
3. Find new customers
4. Build on cluster strengths
5. Create resource management communities.

1. Control costs. The biggest challenge we have is that cost control is our major issue, but costs influenced by government are a relatively small part of the cost equation. But we need to do what we can, including stabilizing the BETR program, addressing workers compensation costs, and improving transportation.

2. Add Services. The post-industrial economy is the service economy. If we can't beat them, it is time to join them. Our goods industries need to add values by adding services and our service industries need to add more services. Delivery, packaging, transportation, the application of information technologies to improve customer service and implement "mass customization" are strategies that all firms can use to gain some pricing leverage.

3. Find new customers. To illustrate I have shown the top 25 exports from Maine in 2001. 13 of the top 25 are forest products or food products, together accounting for more than a third of exports by value, and substantially more by volume. Take out National Semiconductor's semiconductor exports, and these products account for nearly half of Maine's exports. Yet exports account for only half of Maine's economy compared with the U.S. Efforts to develop markets in neighboring Canada are a good start, but they should only be a start. There's a large world waiting out there. Of course, exports are not the only new customers we will have to find. We will have to find them in the U.S., particularly for the tourist industry, where we are in danger of being vacationland only by virtue of our license plates.

4. Build on Cluster Strengths. Much of the discussion about economic development today focuses on "clusters" of economic activity that give a state its economic strength. "Clusters" are usually used to describe places that rely on high tech industries like Silicon Valley. But they can just as easily describe the natural resource industries. Maine is one of the few states to designate its natural resource industries as clusters to be supported through its research and development programs. In an analysis I did two years ago, I identified four types of clusters in Maine based on the extent to which they exhibited the characteristics of a competitive cluster and their market growth. Those types included the "foundation" clusters of the natural resource industries, with high cluster strength but low growth. We need to build on the strong relationships among the dense array of firms, higher education institutions, and public agencies with expertise and knowledge of Maine's natural resources and resource industries. To put it simply, all of our efforts at supporting innovation in fields like information and biotechnology are aimed at creating what already exists in the resource industries.

5. Create Resource Management Communities. Finally, we have to develop radically new approaches to resource management. Our approach to resource management has become dominated by the characteristics of what Lester Thurow described twenty years ago in his book *The Zero-Sum Society*. In such a society a gain by anyone is seen as a loss for someone else, and all issues become "games of pure conflict." To get beyond the zero sum approach to resource management, we have to build resource management communities which are characterized by shared visions of the resources and their future, shared learning about what we know and don't know about the use of resources and their impacts, shared decision making processes in which a wide array of concerned people have meaningful roles, and finally a shared sense that whatever the outcome of such processes are that everyone has had to sacrifice something to get there. The vast majority of resource management decisions we face are, in reality, neither pure conflict nor "win-win" but require some sacrifice on the part of everyone. In creating such resource management communities we will actually be returning to a shared ethic and approach to conservation of our natural resources that Richard Judd at the University of Maine has shown grew up in the 19<sup>th</sup> century as industrialization was beginning to take hold of Maine's natural resources.

We should have no illusions about these strategies. They will take time to implement, and we are running desperately short of time. If you will permit a closing analogy from the resource I know best, the sea: We are caught on a lee shore with our sails aback and we are taking on water. Only the most determined actions will set us aright and afloat with any chance of reaching shore safely and prosperously. So let us set about it. There is not a moment to lose.